

Opportunity Title: Geological and Environmental Systems (GES) Directorate

Opportunity Reference Code: NETL-2017-12-2-Seol

Organization National Energy Technology Laboratory (NETL)

Reference Code NETL-2017-12-2-Seol

Application Deadline 12/31/2018 12:00:00 AM Eastern Time Zone

Description TITLE:

Geological and Environmental Systems (GES) Directorate

DEPARTMENT:

U.S. Department of Energy/National Energy Technology Laboratory (NETL)

NETL CONTACT:

Yongkoo Seol

DUTY LOCATION:

Pittsburgh, PA; Morgantown, WV; Albany, OR

ACADEMIC LEVEL:

☒ PhD

☒ MS

☐ BS

☐ Undergrad

☐ Faculty

POSITION INFORMATION:

1-year appointment; full time (40 hours per week) with the possibility of extension

CLOSING DATE:

12/31/2018

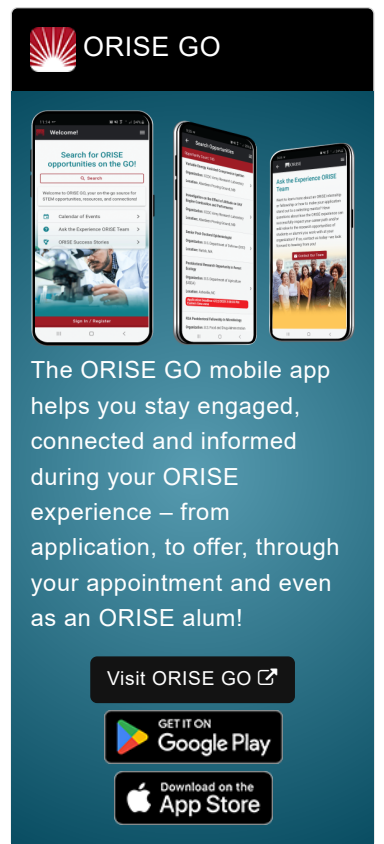
WHO MAY BE CONSIDERED:

United States Citizens, LPRs, & Foreign Nationals with appropriate approval which includes F-1 OPT with EAD (STEM extension not valid), J-1 Exchange Visitor, and LPR with EAD

SUMMARY:

Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated, post-graduates (MS and PhD) interested in researching as part of the GES directorate at NETL. NETL is a multi-disciplinary, scientific, and technical-oriented national laboratory. NETL's Research & Innovation Center (RIC) conducts research to evaluate environmental impacts and risk assessments associated with domestic energy resource development.

RIC performs research within the National Gas Hydrate Research and



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Development Program to obtain pertinent, high-quality information on gas hydrates that will benefit the development of models and methods for predicting the behavior of gas hydrates in their natural environment under natural conditions and production scenarios. RIC supports major gas hydrate production field tests by providing numerical predictions on fluid migration, gas production, and potential reactions occurring during gas production activities, as well as by providing fundamental understanding and knowledge on hydrate behavior derived from experimental investigations on thermal, hydrological, geomechanical, and reactive responses of hydrate. RIC research includes, but is not limited to, numerical modeling efforts, including simulations of long-term production tests, laboratory experimental tests on geomechanical stress-strain measurements, water conductivity and relative permeability of fluid through hydrate-bearing sediments, high resolution visualizations of hydrate distributions and fluid migration in porous media under in situ conditions, developing state-of-the art pressure core analysis tools for characterizing geomechanical responses of field-retrieved hydrate-bearing pressure cores, and market analysis for gas production from hydrate reservoir.

Potential candidates will be contacted when a specific research project on gas hydrates is identified, applications will be received and reviewed for at least a year. Applicants will help to support numerical reservoir simulations for gas production, laboratory characterization of hydrate bearing sediments, basin petroleum system modeling and system engineering analysis, depending on qualification and background. Successful applicants for this position would have a strong background in most, but not all, these elements: high-pressure/low temperature laboratory experiments, geomechanical characterization and analysis, hydrologic or fluid transport models, statistical data analysis, programming (C++, Fortran, Matlab, Python), and basin model development (PetroMod).

HOW TO APPLY:

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program. The ORISE Program provides opportunities for undergraduate students, recent graduates, graduate students, postdoctoral researchers, and faculty researchers to apply classroom knowledge in a real-world setting to learn about NETL Research and Innovation Center's (R&IC) core mission areas.

- Interested applicants should complete the online application at <http://www.ora.gov/netl/>.
- In the online application **list** Yongkoo Seol **as your requested mentor**. This will associate your application with this job posting. Please send a CV to Yongkoo.seol@netl.doe.gov.
- If you have additional questions please contact Patricia Adkins-Coliane, Patricia.adkins-coliane@netl.doe.gov, who is the NETL Graduate Education Program Manager.

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- Eligibility**
- **Degree:** Master's Degree or Doctoral Degree.
- Requirements**
- **Academic Level(s):** Postdoctoral or Post-Master's.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([1](#) )
 - **Computer, Information, and Data Sciences** ([16](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **Life Health and Medical Sciences** ([45](#) )
 - **Mathematics and Statistics** ([10](#) )
 - **Other Non-Science & Engineering** ([13](#) )
 - **Physics** ([16](#) )
 - **Science & Engineering-related** ([1](#) )
 - **Social and Behavioral Sciences** ([28](#) )